

EDUCATION IN A COMPETITIVE AND GLOBALIZING WORLD

# E-Learning

Global Perspectives, Challenges  
and Educational Implications



Donnie Adams  
Chuah Kee Man  
Editors

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# Education in a Competitive and Globalizing World



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**Donnie Adams**  
**and**  
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Editors

# **E-Learning**

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# Preface

As the world recovers from the unprecedented outbreak of the COVID-19 pandemic, the field of education continues to cushion the impacts of school closures and teaching disruption through various measures. E-learning, while not new, has taken a greater role in mitigating the effects of the pandemic. This book, *E-Learning: Global Perspectives, Challenges and Educational Implications*, is not only a collection of chapters shared by researchers and academics but also a manifestation of the dedication of those involved in the pursuit of providing equitable and quality education through the support of e-learning tools and platforms.

The book begins with an outlook on the post-pandemic potentials and challenges of utilising e-learning for cross-border education. The chapter by Donnie Adams and Chuah Kee Man focuses on the necessary measures that can be taken to fully maximise the use of e-learning in promoting cross-border education in higher education institutions. It is indeed timely for higher education institutions to re-examine the concept of cross-border education through the lens of e-learning and virtual mobility especially when physical presence is costly or not feasible.

Several innovative pedagogical approaches and ideas are also presented in enhancing learning experience via e-learning. In Chapter 2, Zainun Mustafa and colleagues offered their perspectives on using creative pedagogy through e-learning for the purpose of science education. They explain the distinctive components of creative pedagogy that can be incorporated through various e-learning tools in order to foster meaningful learning in science classrooms.

In Chapter 3, Vinothini Vasodavan and colleagues focus on developing students' attitude domain via online collaborative learning tools. They propose a framework, which was derived through the fuzzy Delphi method. Their model serves as a guide in selecting the most suitable collaborative learning tools to develop the attitude domain of the students.

In the next chapter, Selvakumar Selvarajan and colleagues introduce the concept of interactive digital storytelling assignment in online teaching and

learning that could help teachers foster higher order thinking skills among their students.

In addition, studies that measure the impact of online learning in different settings are also included in this book. In Chapter 5, Mustaji and colleagues reported the outcomes from their study on online learning engagement among Indonesian university students during the COVID-19 pandemic. Using Rasch model analysis, their study highlighted the Indonesian students' level of engagement and readiness in coping with online learning.

In Chapter 6, Muhammad Mujtaba Asad and colleagues shared their findings on a study conducted on university students in Pakistan, which examined the challenges that they faced dealing with online learning during the pandemic.

Finally in Chapter 7, Riccardo Corrado and Audrey Liwan described MOOCs implementation in the ASEAN region, specifically on the barriers faced by the member states. They also offered their review of issues to be addressed in creating a homogeneous ecosystem for MOOCs in ASEAN.

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# Chapter 1

## **E-Learning and Cross-Border Higher Education: Post-Pandemic Potentials and Challenges**

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### **Abstract**

The impact of COVID-19 pandemic on higher education goes beyond campus closures and disruption in programme delivery. The crisis has indirectly allowed higher education institutions to re-examine their existing programme structure in order to be more flexible and accessible to students both locally and internationally. Such need has triggered a new interest in assessing the use of e-learning in enhancing cross-border higher education, which was traditionally restricted mainly to campus-based physical experience. This chapter discusses the challenges and potentials of implementing cross-border higher education through e-learning mode in the context of post-pandemic higher education ecosystem. The transition to online learning during the pandemic as faced by higher education institutions has elevated the interest in maximizing the roles that e-learning could play in higher education. While e-learning has the potential to allow more cross-border programmes to be offered internationally via virtual mobility, issues surrounding quality assurance,

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infrastructure and diversity remain critical to be addressed. Higher education institutions should not emphasize solely on penetrating new markets without taking measures to deal with the issues mentioned. On the whole, this chapter would serve as a good reference to relevant stakeholders in uncovering the hidden potentials of e-learning in cross-border higher education and evaluating its challenges.

**Keywords:** cross-border higher education, e-learning, pandemic, international mobility

## 1. Introduction

Cross-border higher education (CBHE) has been shifting the organizational boundaries of higher education institutions (HEIs) due to globalization (Amaral, Tavares, Cardoso, & Sin, 2016). In general, CBHE refers to the movement of persons, courses, providers, curricula, and research in higher education across national jurisdictional borders (Vincent-Lancrin, 2007). As a subset to educational internationalisation, cross-border education is part of academic exchange programmes, industrial initiatives, and expansion of cooperation projects. It is not restricted to academic programmes as CBHE could also cover collaboration in terms of research and strategic partnerships (Waterval, Frambach, Pool, Driessen, & Scherpbier., 2016).

CBHE also allows HEIs with limited funding to supplement their revenues with for-profit education services across borders such as franchising or twinning their education programmes or forming double and joint degrees agreements with other institutions in other countries (Knight, 2006). This refers to situations where two or more HEIs from different countries come together to develop courses, modules and curricula offered in partnership and leading to recognized joint degree. CBHE are often acclimated by a country's policy and influenced by its institutional identities (Amaral et al., 2016).

Cross-border education plays an important role in the process of learning and teaching in HEIs. Alaoutinen and Voracek's (2004) comparative study of traditional and e-learning techniques between three Finnish and seven Russian universities in a cross-border higher educational environment gave a potential view on how collaboration between different systems could offer attractive study programmes and various educational services worldwide benefiting both systems and HEIs.

Despite the trends of CBHE within HEIs, there are still limited efforts to examine the potentials and challenges of e-learning in relation to cross-border

higher education. This chapter highlights the rise of cross-border education and its contributing factors. It also includes a discussion on the roles of e-learning in CBHE, its post-pandemic challenges and potentials. This chapter would serve as a good reference to relevant stakeholders in uncovering the hidden potentials of e-learning in cross-border higher education.

## **2. The Rise of Cross-Border Higher Education**

The provision of higher education abroad, through student mobility, franchising, academic partnerships, and opening of a branch campus has grown significantly. These trends benefit education stakeholders in both advanced and developing countries. Rooted in different motivations (Knight & de Wit, 1995), CBHE could be driven by a country's role in the world (political), the usage of a common language, and the collaboration with former colonies (cultural), or based on the aims of its higher education sector such as international standards in education and research (academic).

The global education industry has seen a vast development in recent years. The movement of students across local and international HEIs is gaining in popularity (Ashour, El-Refae, & Zaitoun, 2021; Yıldırım, Bostancı, Yıldırım, & Erdoğan, 2021) and CBHE now plays a vital role in a system's capacity building process. In the study by Lane, Owens and Kinser (2015), the number of postsecondary students enrolled in HEIs outside their country of citizenship doubled to 4.5 million, showing an annual average growth rate of 7% from 2.1 million previously.

CBHE has emerged as a new strategy for HEIs, especially those seeking access to global-wide markets. The collaboration between HEIs can stimulate new research ventures, boost academic mobility and international students' enrolment, fostering mutual understanding and academic collaboration between HEIs. Vincent-Lancrin (2007) postulated that CBHE also contributes towards capacity building in HEIs with the movement of staff and students abroad to access good quality programmes or courses, and research facilities, and later returning with enhanced knowledge, skills, and experiences benefitting the domestic tertiary education provision.

In addition, with the improvement and availability of educational technologies, cross-border education has enabled educational courses to be delivered through e-learning or distance learning (Larsen, Momii, & Vincent-Lancrin, 2005). For students, CBHE can stimulate new ways of thinking, expose them to diverse learning and teaching methods, and enable them to

learn new languages and cultures. Such learning experiences can broaden their intellectual horizons and professional perspectives. As for HEIs, CBHE can enhance their reputation, offer opportunities to gain knowledge about policy and practices in other education systems, and allow the combination of resources to develop innovative educational programmes.

### **3. The Roles of E-Learning in Cross-Border Higher Education**

The rise of CBHE has prompted many HEIs to re-examine their programmes not only by focusing on the curricular aspect but also on the delivery methods. E-learning or online learning is regarded as the catalyst in allowing CBHE to flourish as it can connect HEIs with prospective students efficiently. As emphasized by Knight (2006), the rapid advancement of online learning technology, its increasing affordability and access, as well as its massive adoption due to the pandemic have turned online delivery into the most promising delivery method in the new normal of education across borders. The demand for CBHE has also made open and distance learning (ODL) programmes even more widespread and not restricted to open universities. HEIs can capitalise on their resources related to online learning and design programmes that are well-suited for ODL mode. The existing programmes with its in-person appeal could be offered in hybrid or blended mode that accommodate distance learners (Chen & Yamashita, 2020; Youssef, 2014). This e-learning implementation was apparent during the pandemic closures of campuses across the globe in which the usual in-person courses are conducted either in ODL or hybrid modes. International students who were back at their home countries were still able to continue their study fully online (Dhawan, 2020). Such shift suddenly offers a new outlook to HEIs in terms of utilising e-learning methods for CBHE programmes.

Another role played by e-learning in CBHE is its cost effectiveness in allowing virtual mobility to be carried out. Virtual mobility allows students to interact globally with peers and instructors through e-learning platforms and tools (Bedenlier & Marin, 2021). The use of Massive Open Online Courses (MOOCs) in promoting virtual mobility has increased over the last year due to the fact that learners are not required to be on campus physically. Poce et al. (2020) in their study on MOOC learners experience, showed that through a MOOC design that promotes openness, virtual mobility can be more effective. Despite the initial concern about e-assessment, the findings from their study indicated the importance of making the MOOC structure clear and

explicit in supporting self-regulated learning. By doing this, HEIs can attract more learners from outside of their own country to enrol. As MOOCs have been around for more than a decade, adjusting its content and structure to meet the CBHE requirements would not be as challenging as creating a new programme that is solely meant for CBHE. HEIs can also offer mini-MOOCs that serve to evaluate learners' readiness before they enter the university physically (Buchem et al., 2020).

The mini-MOOCs or micro-MOOCs are linked to the rising concept of micro-credentialing via e-learning. To enhance the offering of CBHE programmes, HEIs need to ensure prospective students' credentials are verified. Instead of depending on the conventional testing, students can be required to register for mini-MOOCs, which are specifically designed for micro-credentialing purposes (Farrow et al., 2021). HEIs would be able to utilise their e-learning resources to promote micro-credential courses (be it at undergraduate or graduate levels) since it would not require international students to travel. Moreover, as more governments around the world are aligning micro-credentials with existing qualification frameworks, it would be more appealing to international students (Brown, Mhichil, Beirne, & Mac Lochlainn, 2021) as shown during the COVID-19 pandemic period when travel was restricted.

These roles played by e-learning in increasing CBHE are pivotal in shaping post-pandemic development of academic programmes. HEIs are now posed with the dilemma of following the tried-and-tested model of conventional programmes or venture into a new ecosystem of flexible academic programmes mediated by e-learning. The following sections will describe some of the most pertinent challenges and potentials of utilising e-learning for the purpose of CBHE.

#### **4. Post-Pandemic Challenges**

Despite the roles of e-learning in spearheading CBHE, HEIs continue to face the issue of developing a solid integrated system for quality control and verification. This concern implies the establishment of processes for the recognition of academic and professional qualifications obtained through domestic or international education institutions. As reiterated by Waterval et al. (2016), there is an urgent need to examine this issue given the growth in academic mobility and the rising mobility of the employment. For students, scholars, and other stakeholders, the validity of higher education programmes

and credentials is crucial. Additional efforts are needed to educate stakeholders about developing prospects for education and professional mobility at the institutional, national, and worldwide levels especially when these programmes are to be offered fully in ODL mode. Additionally, HEIs should be alerted on external threats such as rogue providers, diploma and certification mills, and the incapability of partnering institutions in ensuring quality delivery (Waterval et al., 2016; Varghese, 2013). The most pressing issue, however, is ensuring that the education and credentials awarded are credible and will be recognised for employment and future education prospects globally and not restricted to the home country of the HEIs. This is a significant issue for both the local and international higher education businesses, and further research is essential (Varghese, 2017).

To support the successful implementation of CBHE programmes through e-learning, necessary infrastructures should also be in place. Educational materials and laboratory equipment should adhere to international standards and be regularly maintained or enhanced. Such effort to ensure top-notch infrastructures would be able to attract more international students. This was particularly evident during the epidemic, when students were primarily looking for more effective solutions to their distance learning issues (Rajkhowa, 2013). Those with financial resources were able to pick and transfer to another college that offered a high-quality online education. Those who cannot afford it would face challenging circumstances and might not promote the school to their peers. Eventually, that institution's cross-border mobility and reputation as CBHE provider would decline (Medeiros et al., 2021). As a result, it is critical for institutions to pay attention to this area as well, particularly when overseas students pay a greater tuition than domestic students. In fact, local students would benefit from high-quality infrastructure as they could enhance their skills by engaging in projects or research works done virtually overseas (Smith & Smith, 2020).

Another possible challenge would be the issue of diversity within CBHE programmes. Its successful implementation will necessitate a higher level of acceptance by HEIs. Fegan and Field (2009) emphasised the interconnectedness of numerous diversity issues ranging from linguistic differences to political beliefs, which are normally not managed well by HEIs. Due to this concern, HEIs would need to carefully identify possible partners, appropriate programmes and curriculum, and conduct thorough student and staff screening. Because cross-border schooling typically includes people moving from one country to another, geopolitical differences may also provide a dilemma for all parties concerned (Cantwell, 2016; Tyne & Ruspini, 2021).

As e-learning permit access to learners across the globe, they may bring with them different ideologies that would pose problems in the learning environment. This would produce tensions, and HEIs that are not cautious in the process may eventually find themselves in unnecessary conflict. Furthermore, intercultural awareness is critical not just for avoiding disputes but also for ensuring institutions can create win-win policies and collaborative programmes.

## 5. Post-Pandemic Potentials

The COVID-19 pandemic forced a shift from traditional (face-to-face) approach to online learning for students (Mishra, Gupta, & Shree, 2020). Students are required to transition to a remote learning mode of instruction (Adams & Dewitt, 2021). Various mitigation efforts such as alternative assessment and flexible course plans were implemented to cushion the impact of the pandemic on teaching activities and student learning (Rapanta, Botturi, Goodyear, Guàrdia, & Koole, 2020).

International student mobility, which is an integral part of CBHE has been severely affected by the pandemic. However, digital mobility or virtual mobility is expected to gather pace due to growing trends in the digitalization of learning (Jagannathan, 2021). There is a growth in the offering of fully online degree programmes (Ashour et al., 2021). The growth of online and distance learning programmes may reduce physical mobility but enable virtual mobility, paving the way for CBHE recognition of e-learning courses. HEIs could take the opportunity to devise a new mechanism in structuring their programmes and align to the accreditation framework so as to ensure the programmes are relevant not only for local needs but also attract foreign students. As CBHE is now a necessity for HEIs in order to remain relevant and competitive, there should be a more systematic efforts in addressing the challenges outlined in the previous section.

In addition, business models of HEIs needs to be re-calibrated to provide optimal learning benefits to students (Yıldırım et al., 2021). Equitable access to international education is needed as greater virtual mobility for students will strengthen cross-cultural ties and strategic partnerships between HEIs (Jagannathan, 2021). HEIs should reflect the current fee structure of all programmes as CBHE through e-learning may require a more attractive fee since students are not utilising physical infrastructures on campus. HEIs will need to develop a new value proposition that reassesses the quality of learning

and delivery mechanisms of education across borders. They must also address the needs of an international student population that may be less willing to cross borders for the sole purpose of studying (Aristovnik, Keržič, Ravšelj, Tomaževič, & Umek, 2020). Furthermore, joint education programmes will enable the sharing of e-learning infrastructure and infostructure and encourage the formulation of academic credit transfer agreements between institutions (Nizam, 2020).

As the pandemic continues to transform the future of CBHE in diverse ways, HEIs are presented with a range of new global student markets. The pandemic has opened opportunities for HEIs to position themselves as innovation leaders. As Jørgensen and Claeys-Kulik (2021) forecasted, the future universities will be new and hybrid organizations, ones that combines physical and virtual facilities and embraces CBHE.

## **Conclusion**

The post-pandemic world for HEIs would be a challenging one but filled with vast potentials for the greater flexibility in offering CBHE programmes. The demands of the globalised market and the e-learning implementation during the pandemic have shown that HEIs should consider redesigning their programmes to be more relevant for CBHE. There is substantial evidence that demand for higher education will outpace certain countries' ability to meet local need during the next two decades (Varghese, 2017). As a result, CBHE will continue to expand in popularity and significance particularly through the assistance of e-learning solutions. HEIs will be able to make use of CBHE to increase its global prominence while exporting various quality programmes abroad and increasing international student mobility. However, it also poses new challenges that may lead to unexpected consequences.

The issues ranging from quality assurance and strategies to cope with learner diversity are important for HEIs to address. While e-learning has made it more convenient and cost-effective to offer CBHE programmes than the conventional delivery methods, HEIs should not take these issues lightly. The concern on the quality and recognition, for example, is a double-edged sword that can either increase or decrease the HEI's reputation. Necessary measures should be taken by ensuring programme quality is upheld though it is offered through the ODL mode. All in all, e-learning has a significant role to play in promoting CBHE after its potentials were drastically intensified during the pandemic period.

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